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W. MARSHALL ET AL

1,616,459

DOOR LOCK

Filed Feb. 2, 1925

2 Sheets-Sheet 1

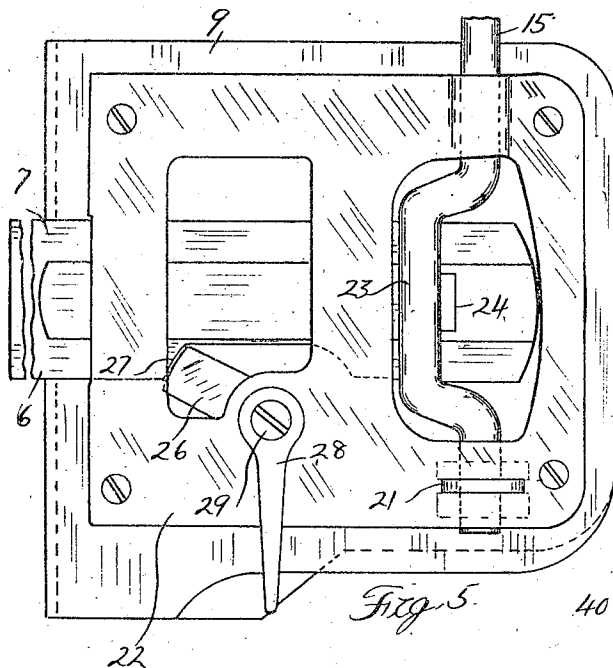


Fig. 5.

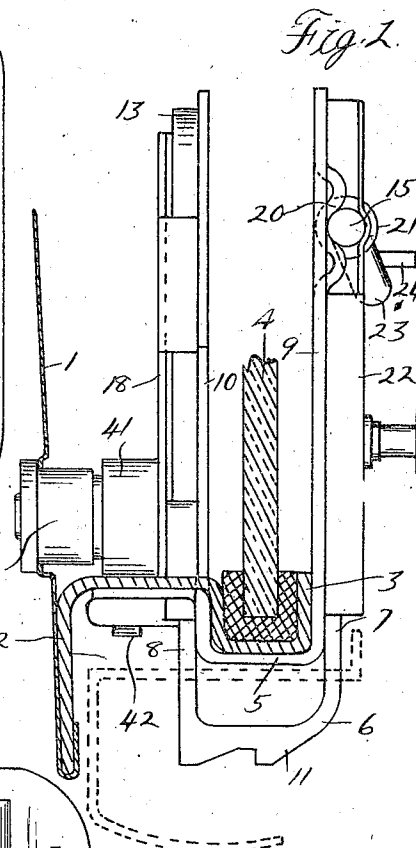


Fig. 2.

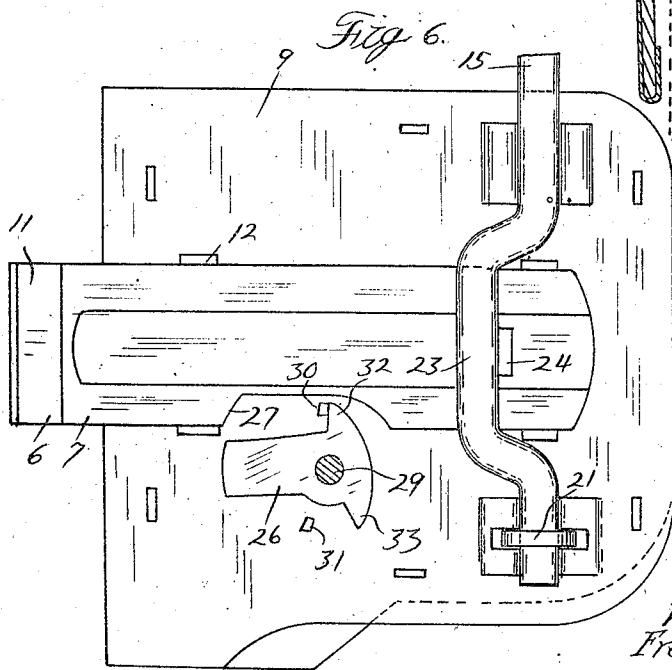


Fig. 6.

Inventors
William Marshall
Frederick Kiehler

By *Wittmore, Hulbert, Wittmore & Knap*
Attorneys

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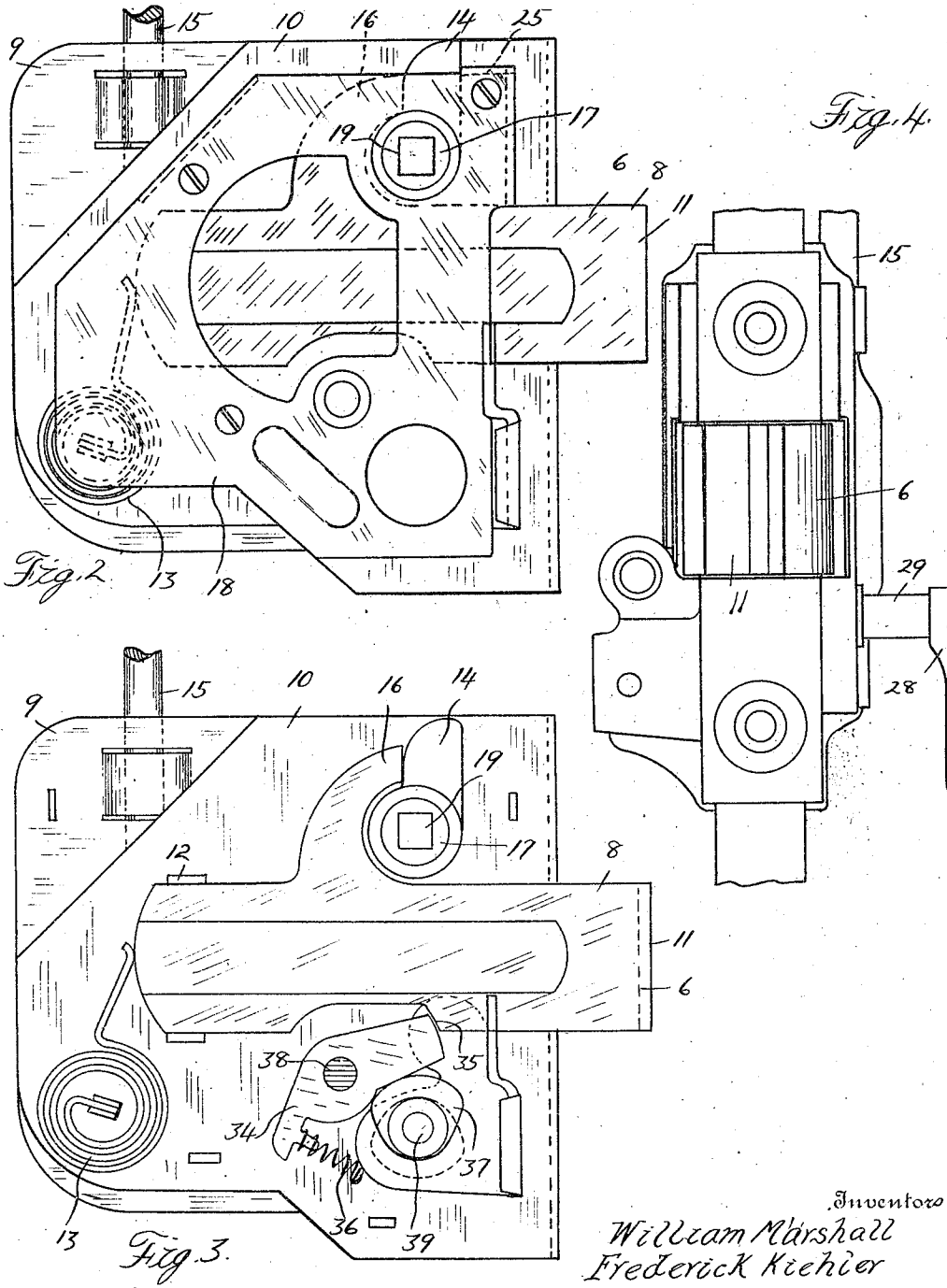
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Inventors
William Marshall
Frederick Kiehler
By *Whittemore & Whittemore* Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM MARSHALL AND FREDERICK KIEHLER, OF DETROIT, MICHIGAN, ASSIGNORS
TO BRIGGS MANUFACTURING COMPANY, OF DETROIT, MICHIGAN, A CORPORATION
OF MICHIGAN.

DOOR LOCK.

Application filed February 2, 1925. Serial No. 6,426.

This invention relates generally to locks and latches designed particularly for use with vehicle doors and consists of certain novel features of construction, combinations and arrangements of parts as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings;

Figure 1 is a horizontal sectional view through a vehicle door with a lock embodying our invention applied thereto.

Figure 2 is a side elevation from the outer side of the door.

Figure 3 is a view similar to Figure 2 with the cover plate removed.

Figure 4 is a front elevation thereof.

Figure 5 is a side elevation thereof from the inner side of the door.

Figure 6 is a view similar to Figure 5 with the cover plate removed.

Referring now to the drawings in which like characters of reference designate corresponding parts throughout the several views, the numeral 1 designates a door, preferably of a vehicle body, having a pillar 2 provided at its inner edge with a channel-shaped portion 3 which constitutes a runway for a vertically movable glass panel 4.

In order that a suitable lock may be mounted and operated upon the pillar 2 without interfering with the vertical movement of the glass panel 4, we preferably provide a case plate 5 that is preferably U-shape in cross section and that preferably straddles the channel-shaped guide-way 3. Straddling this case plate 5 and the guide-way 3 for the glass panel 4 is a reciprocatory bolt 6 that is also substantially U-shape in cross section. As shown, the shank sections 7 and 8 respectively of the bolt slidably engage the inner and outer sections 9 and 10 respectively of the case plate while the transversely extending portion 11 constitutes the head of the bolt and is adapted to engage a suitable keeper (not shown) upon the door jamb of the vehicle body. Any suitable means such as the lugs 12 struck-out from the case plate may be employed for guiding the bolt, while a helical spring 13 anchored upon the outer section 10 of the case plate is preferably used to normally hold the bolt in projected position.

For retracting the bolt against the tension

of the spring 13, we preferably provide a suitable roll-back 14 that is adapted to be operated from the outside of the door, and a rotatable spindle 15 that is adapted to be operated from the inside of the door.

As shown, the roll back 15 is engageable with an upstanding arm 16 on the outer shank section 8 of the bolt and is provided with a hub 17 that is journaled in aligned openings in the outer section 10 of the case plate and cover plate 18 secured thereto. Any suitable means (not shown) may be engaged with the square opening 19 in the hub 17 for rocking the roll-back 14 against the arm 16 for retracting the bolt. The rotary spindle is preferably journaled on the inner section 9 of the case plate between spaced struck out bearings 20 and is prevented from moving vertically thereon by a ring 21 that is secured to the spindle 15, preferably at the lower end thereof, and extends through aligned openings in the case plate section 9 and cover plate 22 secured thereto. As shown, this spindle 15 is preferably provided intermediate its ends with a suitable crank portion 23 that engages a lug 24 projecting laterally from the shank section of the bolt. Thus, with this construction, the spindle 15 may be operated against the lug 24 to retract the bolt without affecting the roll back 14, and the latter may in turn be operated against the arm 16 without affecting the spindle 15. The spring 13 will always exert a pressure through the lug 14 on the bolt shank section 7 against the crank portion 23 of the spindle 15 so that the latter will normally be in operative position to retract the bolt. Likewise the spring 13 will exert a pressure through the arm 16 on the shank section 8 of the bolt against the roll back 14 and will normally hold the latter in operative position against a lug 25 extending inwardly from the upper edge of the cover plate 18.

In order that the outside operating means may be rendered inoperative from the inside of the door, we preferably provide a dog 26 that is pivoted on the inner section 9 of the case plate and is adapted to engage a shoulder 27 of the inner shank section 7 of the bolt for preventing the latter from being retracted by the roll-back 14. As shown, this dog 26 is preferably actuated by a suit-

able lever 28 that is rigidly secured to the pivot 29 for the dog. For limiting the swinging movement of the dog, we preferably provide suitable lugs 30 and 31 respectively which are struck out from the inner section 9 of the case plate and are adapted to be alternately engaged by the shoulders 32 and 33 respectively of the dog 26.

To prevent the retraction of the bolt 6 by either the roll-back 14 or the spindle 15, we preferably provide a dog 34 that is pivoted on the outer section 10 of the case plate and is engageable with a shoulder 35 of the outer shank section 8 of the bolt. As shown, this dog 34 is normally held inoperative by means of a suitable coil spring 36 which may be anchored in any suitable manner upon the case plate section 10. For moving the dog 34 into operative dogging position behind the shoulder 35 of the bolt, we preferably provide a cam 37 that is engageable with the dog 34 in advance of the pivot 38 and is non-rotatably secured to a key actuated shank 39 by a suitable auxiliary lock 40 which is preferably anchored in a tubular housing 41 projecting laterally from the cover plate 18. This housing 41 may be secured in any suitable manner to the cover plate 18 and any suitable means such as a screw 42 may be employed for holding the auxiliary lock 40 within the housing 41.

From the foregoing description, it will be readily apparent that a lock of this type may be readily mounted upon a door pillar having a very small cross section, consequently the vision of the occupants of the vehicle is materially increased. Moreover, the bolt straddles the guide way for the glass panel and the locking dogs 26 and 34 respectively are arranged upon opposite sides of the case plate which straddles the guide-way for the glass panel, hence the bolt may be retracted or dogged without interfering with the vertical movement of the glass panel.

While it is believed that from the foregoing description, the nature and advantages of the invention will be readily apparent, we desire to have it understood that we do not limit ourselves to what is herein shown and described and that such changes may be resorted to when desired as fall within the scope of what is claimed.

What we claim as our invention is:

1. The combination with a door having a run-way for a vertically movable glass panel, of a lock having a case plate straddling the run-way, a bolt straddling the case plate, means carried by the case plate for retracting the bolt, and means upon one section of the case plate engageable with one section of

the bolt for rendering said retracting means inoperative.

2. In a lock, the combination with a case plate having substantially parallel sections, of a bolt straddling the parallel sections of said case plate, means for retracting the bolt, and means for rendering the retracting means inoperative including a member pivoted on one section of the case plate engageable with a portion of the bolt.

3. The combination with a door having a run-way for a vertically movable glass panel, of a lock having a case plate, a bolt straddling the run-way, a lug projecting laterally from one section of the bolt, an arm projecting from the other section of the bolt, means upon the inner side of the door engageable with the lug for retracting the bolt, and means upon the outer side of the door engageable with the arm for retracting the bolt.

4. The combination with a door having a run-way for a vertically movable glass panel, of a lock having a case plate, a bolt having substantially parallel sections movable upon opposite sides of the run-way, means for actuating the bolt, and means for rendering said actuating means inoperative including an element carried by the case plate engageable with one section of the bolt.

5. The combination with a door having a run-way for a vertically movable glass panel, of a lock having a locking bolt straddling the run-way, means for retracting the bolt, and means for rendering the retracting means inoperative including a dog engageable with the bolt.

6. The combination with a door having a run-way for a vertically movable glass panel, of a bolt having substantially parallel sections movable upon opposite sides of the run-way, means for retracting the bolt, a dog engageable with the bolt for rendering the retracting means inoperative, yieldable means normally holding the dog inoperative, and a key operated member for moving the dog into operative dogging engagement with the bolt.

7. In a door lock, the combination with a case plate, of a bolt straddling said case plate, means for retracting the bolt, a dog engageable with the bolt for rendering the retracting means inoperative, a cam for moving the dog into operative dogging engagement with the bolt, and means for actuating the cam.

In testimony whereof we affix our signatures.

WILLIAM MARSHALL.
FREDERICK KIEHLER.